

US EPA Region 6 – Site-Specific Health and Safety Plan (HASP)

GENERAL INFORMATION	Facility/Site Name:		International Terminal Corporation Tank Fire	
	Field Start Date (MM/DD/YYYY):	03/17/2019	Field End Date:	Unknown
	Facility/Site Location: (complete address, if relevant)		International Terminal Corporation, 1943 Independence Parkway, Deer Park, TX	
	General Description of Site Activities:		Conduct air and surface water sampling in and around the plant, and surface water sampling from a boat traveling in the Houston Ship Channel.	
EMERGENCY INFORMATION	Non-911 Emergency Phone: (Direct to police, fire, hospital and Facility; include area code)		Police: Deer Park Police Department	Fire: Deer Park Fire Department
			Hospital:	Facility/Site:
	Medical Facilities: (Name and Address)		HCA Houston Southeast, 4000 Spencer Hwy, Pasadena, TX	
	Directions to Local Medical Facilities:		(see attached map with directions)	
	Site-Specific Emergency Response Procedures:		Dial 911	
EPA RESOURCES		Name	Work Phone	Mobile Phone
	Team/Project Leader:	Adam Adams		214-202-6952
	First-Line Supervisor:	Chris Petersen	(214) 665-3167	
	R6 SHEMP Manager:	Kendra Mask	(214) 665-7225	(214) 205-7643
	Workmen's Comp Manager:	Kendrick Young	(214) 665-7466	---
HAZARDS / SAFETY	Applicable JHA(s):		OSC	
	Check Potential Hazards:			
	<input type="checkbox"/> Radiation	<input checked="" type="checkbox"/> Toxics	<input checked="" type="checkbox"/> Fire/Explosion	<input type="checkbox"/> Corrosives
	<input type="checkbox"/> O ₂ Deficiency	<input type="checkbox"/> Noise	<input checked="" type="checkbox"/> Physical	<input type="checkbox"/> Other:
	<input type="checkbox"/> Dusts	<input checked="" type="checkbox"/> Heat/Cold Stress	<input type="checkbox"/> Biological	
	Site Specific Hazard Description: (i.e. potential hazards, routes of entry, quantity of chemicals present, etc.)		Inhalation /absorption hazard of chemical hazards. Chemical hazards include the gasoline components (Naphtha, Xylene, and Toluene), semi-volatile organic compounds (SVOCs), Polyfluoroalkyl Substances (PFAS), and volatile organic compounds (VOCs); in particular Benzene. Physical hazards are present, including slips, trips, and falls. Physical hazards associated with watercraft operations are also present. Heat/cold stress may also be a potential hazard depending on weather. Operational Hazard include long hours.	
Safety Monitoring Equipment Required: (list equipment)		Air Monitoring for VOCs, Benzene, and PM.		
Prevention:		All site safety procedures shall be followed. Areas with potential exposure to chemical, physical and explosive hazards shall be avoided if at all possible. Team members shall not enter confined spaces or areas with potential unexploded ordinance. In case of emergency, all inspection staff shall exit and allow site personnel to contain and manage incident.		
Safety Supplies:		Reference attached JHA		

Facility/Site Name:	International Terminal Corporation Tank Fire	
Field Start Date:	03/17/2019	Field End Date: Unknown

HASP Approval / H&S Certification	This site HASP has been reviewed and constitutes the minimum anticipated safety requirements for personnel engaged in field activities at this project site. NOTE: THE HASP HAS TO BE COMPLETE WITH ATTACHMENTS BEFORE SIGNING.			
	By signing below, I certify that I have read and understand the JHA applicable to this HASP, have completed all required health and safety training, and possess all required personal protective equipment.			
	Team and/or Project Leader/ Cell Phone Number	Signature/ Date:		
	Adam Adams 214-202-6952	[Signature] 3/25/2019		
	Team Member(s) Cell Phone Number	Signature/ Date:	Team Member(s) Cell Phone Number	Signature/ Date:
	Steve Mason	[Signature]	214-789-1871	
	Matt Loesel	[Signature] 3/25/19	214-738-0674	
	Kelsey Fisher	[Signature] 3/25/19	469-510-8825	
	Ronnie Crossland	[Signature] 3/25/19	214-329-8309	
By signing below, I certify that I have read and approved this HASP, and have confirmed the team listed above are all current in their H&S training/programmatic requirements as defined in their current JHA(s).				
First-Line Supervisor:	Signature/ Date:			
Chris Petersen	[Signature] 3/26/2019			
Health & Safety Officer:	Signature/ Date:			
Kendra Mask	[Signature] 3/26/2019			
<div style="text-align: right;"> <small>Digitally signed by KENDRA MASK DN: c=US, o=U.S. Government, ou=Environmental Protection Agency, cn=KENDRA MASK, 0.9.2342.19200300.100.1.1=68001003655744 Date: 2019.03.26 09:46:43 -05'00'</small> </div>				

NOTE: After approval of the HASP and before departing to the field, the project leader must email a signed PDF copy to each of his/her TEAM MEMBER(s), FIRST-LINE SUPERVISOR, and the SHEMP MANAGER. The project leader must carry and maintain a signed hardcopy in the field and have it accessible for all team members.

HASP Disapproved	HASP DISAPPROVED		For Health & Safety Officer Use Only
	Deficient Area(s):		
	<input type="checkbox"/> HASP Error <input type="checkbox"/> Training Error <input type="checkbox"/> Programmatic Error		
	Health & Safety Officer:	Signature:	Date:
	Kendra Mask		

JOB HAZARD ANALYSIS

Hazard Types (HT)		Job Task:	On-Scene Coordinators																													
1. Toxic Chemic 2. Flammable Chemicals 3. Corrosive Chemicals 4. Environmental 5. Explosion (Chemical Reaction) 6. Explosion (Over pressurization) 7. Mechanical/Vibration 8. Electrical (Shock, Short Circuit) 9. Electrical (Fire) 10. Electrical (Static, ESD) 11. Electrical (Loss of Power) 12. Ergonomic (Overexertion) 13. Ergonomic (Human Error) 14. Vibration	15. Fall (Slips/Trips) 16. Fall (To a Different Level) 17. Excavation (Collapse) 18. Fire, Heat, Thermal, Cold 19. Noise 20. Radiation (Ionizing/Non-Ionizing) 21. Visibility 22. Weather 23. Caught (In, On, Between) 24. Struck (By, Against) 25. Driving 26. Confined Space 27. Biological (Pathogens, animals, etc.) 28. Fatigue 29. Other	Job Frequency/Duration: 60% of the year 1-21 days Tools Used: Digital Camera Laptop GPS unit Gear Bag Chemicals Used: None	CRITICAL TO SAFETY (CTS) Risk Estimation Matrix <table border="1" style="margin-top: 10px; width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th rowspan="2">Probability of Occurrence of Harm</th> <th colspan="4">SEVERITY OF HARM</th> </tr> <tr> <th>Catastrophic</th> <th>Serious</th> <th>Moderate</th> <th>Minor</th> </tr> </thead> <tbody> <tr> <td>VERY LIKELY</td> <td>Extreme</td> <td>High</td> <td>Medium</td> <td>Low</td> </tr> <tr> <td>LIKELY</td> <td>High</td> <td>Medium</td> <td>Low</td> <td>Negligible</td> </tr> <tr> <td>UNLIKELY</td> <td>Medium</td> <td>Low</td> <td>Negligible</td> <td>Negligible</td> </tr> <tr> <td>REMOTE</td> <td>Low</td> <td>Negligible</td> <td>Negligible</td> <td>Negligible</td> </tr> </tbody> </table> <p style="font-size: small; margin-top: 10px;">* High = CTS tasks should receive engineering controls prior to assigning administrative or PPE controls.</p>	Probability of Occurrence of Harm	SEVERITY OF HARM				Catastrophic	Serious	Moderate	Minor	VERY LIKELY	Extreme	High	Medium	Low	LIKELY	High	Medium	Low	Negligible	UNLIKELY	Medium	Low	Negligible	Negligible	REMOTE	Low	Negligible	Negligible	Negligible
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Job Description: The OSC responds to releases of hazardous substances and petroleum products under CERCLA or OPA, respectively. The response may involve assessment, stabilization, and cleanup of the hazardous substance or petroleum product. The response can take place in any conceivable location, time, and weather condition. The Emergency Management Program (EMP) expects the OSC to be able to work safely in a hazardous environment with proper training on awareness and use of PPE. As stated in the PPE Program, EMP expects engineering and administrative controls will be considered before relying on PPE for protection.

Step #	Procedures (LOP Procedure Step)	Potential Hazards	HT	Check CTS	Required Safe Practice	PPE
1	Response to scene of accident	Ergonomics, Driving, Weather	13, 21, 22, 24, 25, 28	Medium	Careful lifting techniques, secure grip, packing at desk level or higher; Drive defensively; do not text while driving	None
2	Assess the situation and determine if release needs to be secured and stabilized or is ready for cleanup. If clean-up is required, write a HASP prior to cleanup activities commencing. Perform cleanup activities.	Chemicals, heat/cold stress, fire, explosion, noise, slips/trips/falls, biological, electricity, radiation, confined space	1-29	Low - Extreme	Reference table below and PPE Hazard Assessment Form	
3	Demobilize	Ergonomics, Driving, Weather	13, 21, 22, 24, 25, 28	Medium	Careful lifting techniques, secure grip, unpacking at desk level or higher; Drive defensively; do not text while driving	None

HAZARDS—NOTE ALL POTENTIAL HAZARDS ASSOCIATED WITH THE JOB (CHECK ALL THAT APPLY)

Physical			
General	<input checked="" type="checkbox"/> heat	<input checked="" type="checkbox"/> cold	<input checked="" type="checkbox"/> noise
	<input checked="" type="checkbox"/> explosion	<input checked="" type="checkbox"/> fire	<input checked="" type="checkbox"/> weather
	<input checked="" type="checkbox"/> fatigue	<input checked="" type="checkbox"/> violence	<input checked="" type="checkbox"/> illness/injury
Radiation	<input checked="" type="checkbox"/> ionizing	<input checked="" type="checkbox"/> microwave	<input type="checkbox"/> light
Vehicles	<input checked="" type="checkbox"/> traffic	<input checked="" type="checkbox"/> heavy equip	<input checked="" type="checkbox"/> forklift
	<input checked="" type="checkbox"/> helicopter	<input checked="" type="checkbox"/> small aircraft	<input checked="" type="checkbox"/> boat
Boat Ops	<input type="checkbox"/> sediment sampling	<input type="checkbox"/> rapid water	<input checked="" type="checkbox"/> open water
	<input type="checkbox"/> diving	<input type="checkbox"/> electrofish	
Industrial	<input checked="" type="checkbox"/> comp gas	<input checked="" type="checkbox"/> electricity	<input checked="" type="checkbox"/> confined space
	<input checked="" type="checkbox"/> equip	<input checked="" type="checkbox"/> moving parts	
Overhead	<input checked="" type="checkbox"/> obstruction	<input checked="" type="checkbox"/> falling objects	
Elevation	<input checked="" type="checkbox"/> roof	<input checked="" type="checkbox"/> scaffold	<input checked="" type="checkbox"/> ladder
	<input checked="" type="checkbox"/> stairs	<input checked="" type="checkbox"/> carwalk	
Slips/trips	<input checked="" type="checkbox"/> terrain	<input checked="" type="checkbox"/> debris	<input checked="" type="checkbox"/> slippery
	<input checked="" type="checkbox"/> trench	<input checked="" type="checkbox"/> pits/holes	
Other physical hazards:		<input checked="" type="checkbox"/> High altitudes, physical exertion, driving	

Biological			
Agriculture	<input type="checkbox"/> CAFO	<input type="checkbox"/> fish	<input checked="" type="checkbox"/> farm animals
Animals	<input checked="" type="checkbox"/> dogs	<input checked="" type="checkbox"/> feral animals	<input checked="" type="checkbox"/> snakes
Insects	<input checked="" type="checkbox"/> spiders	<input checked="" type="checkbox"/> mosquitoes	<input checked="" type="checkbox"/> wasp/hornet
	<input checked="" type="checkbox"/> bees		
Pathogens	<input checked="" type="checkbox"/> bloodborne	<input type="checkbox"/> sewage	<input checked="" type="checkbox"/> med/lab
Other Biological:	<input checked="" type="checkbox"/> poisonous plants, domestic animals, scorpions, chemistry laboratories with abandoned chemicals		

Chemical			
Containers	<input checked="" type="checkbox"/> ammonia	<input checked="" type="checkbox"/> chlorine	<input checked="" type="checkbox"/> other
VOCs	<input checked="" type="checkbox"/> solvents	<input checked="" type="checkbox"/> fuel	<input checked="" type="checkbox"/> oils
Wastes	<input checked="" type="checkbox"/> sewer	<input checked="" type="checkbox"/> landfill	<input checked="" type="checkbox"/> smoke/dust/fume
	<input checked="" type="checkbox"/> metals	<input checked="" type="checkbox"/> PCBs	<input checked="" type="checkbox"/> paints/surfacing
Particulates	<input checked="" type="checkbox"/> fibers	<input checked="" type="checkbox"/> diesel	<input checked="" type="checkbox"/> asbestos
Sampling	<input checked="" type="checkbox"/> acids	<input checked="" type="checkbox"/> bases	
Other Chemicals:	<input checked="" type="checkbox"/> Industrial chemicals, mercury, pesticides, chemical warfare agents, biological agents		

REQUIRED PERSONAL PROTECTIVE EQUIPMENT (PPE) (CHECK ALL THAT APPLY)

Feet:	<input type="checkbox"/> safety boots	<input checked="" type="checkbox"/> steel-toe boots	<input type="checkbox"/> shank
	<input checked="" type="checkbox"/> rubber booties	<input type="checkbox"/> waders	<input type="checkbox"/> other:
Gloves:	<input type="checkbox"/> leather	<input type="checkbox"/> cotton	<input type="checkbox"/> cut-resistant
	<input checked="" type="checkbox"/> chemical resist	<input checked="" type="checkbox"/> disposable	
Body:	<input checked="" type="checkbox"/> safety vest	<input checked="" type="checkbox"/> pfd	<input type="checkbox"/> harness
	<input checked="" type="checkbox"/> tyvek	<input checked="" type="checkbox"/> saranex	<input type="checkbox"/> coveralls
Eyes:	<input checked="" type="checkbox"/> safety glasses	<input type="checkbox"/> sunglasses	<input type="checkbox"/> goggles
Head:	<input checked="" type="checkbox"/> hard hat	<input checked="" type="checkbox"/> hearing protection	<input checked="" type="checkbox"/> respirator

OTHER REQUIRED SAFETY EQUIPMENT/TRAINING

<input checked="" type="checkbox"/> dosimetry	<input checked="" type="checkbox"/> communication	<input type="checkbox"/> decon
<input checked="" type="checkbox"/> first aid kit	<input type="checkbox"/> fire extinguish	<input type="checkbox"/> flares
<input type="checkbox"/> chains/studs	<input type="checkbox"/> eye wash/shower	

<input type="checkbox"/> 24 hr HAZWOPER	<input checked="" type="checkbox"/> 40 hr HAZWOPER	<input checked="" type="checkbox"/> HAZWOPER Annual Refresher
<input checked="" type="checkbox"/> TLD Program	<input checked="" type="checkbox"/> RPP Program	<input checked="" type="checkbox"/> Medical Surveillance
<input checked="" type="checkbox"/> 1 st Aid/CPR	<input checked="" type="checkbox"/> Other: 1) Defensive Driving; 2) Radiation Safety Training; 3) Watercraft Safety Training; 4) Bloodborne pathogens awareness; 5) Confined Space	

COMMENTS:

Potential chemical exposures are numerous and include, but are not limited to, VOCs, SVOCs, pesticides, herbicides, solvents, fuel, radionuclides, asbestos, mercury, chemical warfare agents, and biological agents. Personnel may also encounter abandoned chemistry laboratories, in which chemicals may still reside. Although personnel are not conducting the remedial actions themselves, they are in close proximity to contractors conducting the work and have the potential to encounter the hazardous constituents. Depending upon the situation, personnel may require use of respiratory protection to reduce exposures to airborne contaminants. Personnel are potentially exposed to hazardous noise; however, exact sound levels are not known at this time. Further analysis is required. Sources of hazardous noise include industrial equipment, heavy equipment, etc. Personnel are required to wear ear plugs and/or muffs while working around hazardous noise sources. Employees engage in field activities during all types of weather conditions, to include extreme heat and cold. Thermal stress is a viable hazard; therefore personnel must ensure adequate hydration and appropriate field gear is worn while engaging in field activities. In addition, field activities are conducted on various terrain and in remote locations where pits, holes, and trenches are encountered. Personnel need to be cognizant of their surroundings, utilize steel-toed boots, and take evasive actions to avoid contact with such hazards. Potential fire and/or explosions hazards are possible. Personnel are usually accompanied by either a State Representative, site owner or responsible party who are knowledgeable about site conditions. Personnel may climb structures, greater than 4 feet above ground surface, to observe potential deficiencies. Personnel climb stairways with appropriate handrails and walkways. Personnel must inspect stairways/walkways to ensure structural integrity and/or question site personnel regarding structural stability prior to climbing. Personnel may climb step ladders or extension ladders to inspect equipment or conduct sampling. Employees must pay attention to proper ladder selection and electrical shock precautions. Personnel may encounter ionizing radiation, above background levels, while at various facilities. EPA employees are enrolled in the Regional TLD program and assigned a radiation badge for use during these types of facility inspections. Radiation Safety Training is required. Although rare, employees may be exposed to a variety of electrical components. REFERENCE PPE HAZARD ASSESSMENT FORM FOR SPECIFIC EXPLANATION OF HAZARDS ASSOCIATED WITH THIS JOB HAZARD ANALYSIS.

CERTIFICATION OF HAZARD ASSESSMENT

SUPERVISOR: <i>Chris Peterson</i>	DATE: <i>11/4/13</i>	SAFETY/HEALTH REPRESENTATIVE: <i>Lyndee</i>	DATE: <i>10-27-13</i>
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PPE Hazard Assessment Form

HEALTH AND SAFETY HAZARDS		
Chemical Hazards	Description/Mitigation	
X	Vapors/gases	Personnel may be potentially exposed to a wide variety of chemicals during response activities.
X	Dusts/mists/fumes	Personnel may be potentially exposed to a wide variety of chemicals during response activities.
X	Liquid splash	Personnel may be potentially exposed to a wide variety of chemicals during response activities.
Comments: Potential chemical exposures are numerous and include, but are not limited to, VOCs, SVOCs, pesticides, herbicides, solvents, fuel, radionuclides, asbestos, mercury, chemical warfare agents, and biological agents. Personnel may also encounter abandoned chemistry laboratories, in which chemicals may still reside. Although personnel are not conducting the remedial actions themselves, they are in close proximity to contractors conducting the work and have the potential to encounter the hazardous constituents. Depending upon the situation, personnel may require use of respiratory protection to reduce exposures to airborne contaminants.		
Physical Hazards	Description/Mitigation	
X	Ergonomics	Personnel may experience repetitive motions, frequent or heavy lifting, pushing, pulling, or carrying of heavy objects; and prolonged awkward postures. Vibration and cold may add risk to these work conditions. The level of risk depends on the intensity, frequency, and duration of the exposure to these conditions. Careful lifting techniques along with secure grips and packing at desk level or higher will reduce potential exposures.
X	Heat —high temperatures	Employees engage in field activities during all types of weather conditions, to include extreme heats. Heat stress is a viable hazard; therefore personnel must ensure adequate hydration and appropriate field gear (light weight, loose fitting and light-colored clothing) is worn while engaging in emergency response activities. Personnel must be knowledgeable on the signs and symptoms of heat stress, heat stroke, and heat exhaustion and understand corrective measures to take.
X	Cold —cold temperatures	Employees engage in field activities during all types of weather conditions, to include cold weather. Although field activities are performed in temperate climates, cold weather may be a potential hazard. Personnel must ensure adequate hydration and appropriate field gear (layers, protecting the extremities especially fingers, toes, nose, and ears) is worn while engaging in response activities. Personnel must be knowledgeable on the signs and symptoms of frost bite and hypothermia and understand corrective measures to take.
X	Electricity	Employees may be exposed to electrical shock during response activities, depending upon the structural integrity of the overall power grid while commuting and the facility's internal electrical system. Always assume power lines are live and never touch or drive over them. Maintain a safe distance from all electrical components. If exposed lines are present, do not touch any metal objects/equipment nor stand in nearby pools/puddles of water.
X	Radiation —ionizing, non-ionizing	Personnel may encounter ionizing & non-ionizing radiation, above background levels, while at sites. Personnel conduct radiation assessments prior to site entry. EPA employees are enrolled in the Regional TLD program and assigned a radiation badge for use during site visits which may have sources of ionizing radiation. Annual Radiation Safety Training is required.
X	Noise	Personnel are occasionally exposed to various sources of hazardous noise, to include industrial equipment. However, the equipment is usually abandoned and inoperable. In addition, personnel may work around/near heavy equipment (e.g. debris removal trucks, backhoes, dump trucks, etc.) Personnel must wear ear plugs and/or muffs while around hazardous noise sources. Noise levels have not been documented. Further analysis is required.
X	Fire/Explosion	Due to the nature of emergency responses, potential fire and/or explosions hazards are probable due to broken gas lines and damaged electrical lines or appliances. Personnel may be exposed to existing fires or new fires created by aftershocks. Incompatible chemicals (flammable, corrosive, ignitable) may interact due to a variety of circumstances, creating an explosion hazard. If personnel observe any spills/leaks/releases, they should exit the area immediately. Personnel should also follow the emergency response procedures given during the situational awareness/safety briefing.
X	Slips/Trips/Falls	Slips/trips/falls are always probable conducting field visits, outside where pits, holes, and various terrains are encountered. Personnel need to be cognizant of their surroundings, wear steel-toed safety boots, and take evasive actions to avoid contact with such hazards.
X	Elevation - Falls	Personnel may climb units, greater than 4 feet above ground surface, to observe potential deficiencies. Personnel climb stairways with appropriate handrails and/or ladders affixed to various units. Personnel must inspect stairways/walkways to ensure structural integrity and/or question site personnel regarding structural stability prior to climbing. Personnel may climb step ladders or extension ladders to inspect equipment. Personnel must pay close attention to the Duty Rating of the ladder and the combined weight of the user and materials. Select a ladder with the proper capacity. Also, be sure to select a ladder of proper height to reach the work area without overextending. Be aware of wires, electrical devices and live electrical circuits. Metal ladders conduct electricity and can create a danger of electrocution. Failure to read and follow instructions regarding electrical safety could result in serious personal injury or death.

Physical Hazards Cont.		Description/Mitigation
X	Confined spaces	Although employees do not enter confined spaces, they may still encounter confined spaces and need applicable awareness training. Such confined spaces are found in industries such as ships, paperboard mills, telecommunications, sewer, petroleum refineries, and chemical storage and/or distribution. Personnel are restricted from permit required confined spaces. If you are not sure, do not enter.
X	Driving	Vehicular accidents and traffic are potential hazards encountered while driving to and from sites. Defensive driving training is required (every 3yrs). Personnel must be attentive to the absence of stop lights, debris in roadway, downed or low-hanging electrical/power lines, other vehicles, etc. Do not use hand-held devices or text while driving. Personnel must keep updated maps and routes, and keep cell phone charged and readily accessible for emergency communications or situational updates.
X	Other	Fatigue is also a concern due to potentially long working hours (12-16 hours/day). Personnel must limit work shifts to a maximum of 16 hours including travel time to and from base station. Ensure adequate sleep of at least 7-8 hrs and take frequent breaks. Personnel should check weather forecasts prior to deployment and prepare for conditions prior to leaving for the site.
Biological Hazards		Description/Mitigation
X	Animals	Employees may encounter a variety of animals and insects while in the field. These include dogs, feral animals, snakes, mosquitos, spiders, bees, wasps, etc. Personnel must pay special attention to displaced household pets, as they can be especially dangerous. Personnel are not to engage no matter how friendly they seem. Personnel should wear appropriate field gear depending upon the location (e.g. long sleeves, long pants, snake chaps, insect repellent, etc). Personnel need to be cognizant of their surroundings and take evasive actions to avoid contact with animals/insects.
X	Other	<p>Personnel have the potential to encounter unknown water and/or raw sewage, in which various pathogens are present. Personnel utilize latex gloves and administrative controls, such as non-entry procedures, to reduce potential exposures to biological hazards. Personnel are required to practice good hygiene, such as proper hand washing and/or antimicrobial wipes/liquid, to reduce biological exposures.</p> <p>Employees are often in remote locations, in which poison ivy and other infectious plants are present. Personnel must be trained to ensure they are aware of the surroundings and avoid plants to prevent injury/illness. Cut-resistant gloves should also be utilized to reduce potential exposures.</p>

Completed by: Kendra Gomez & Rita Engblom

Updated by: Kendra Gomez

SHEMP Review

Kendra Gomez

Date: March 15, 2012

Date: 6/27/2013

Date: 10-22-13

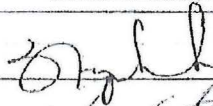
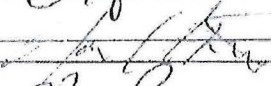

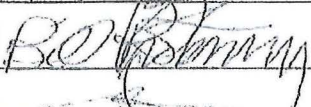
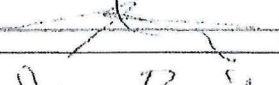
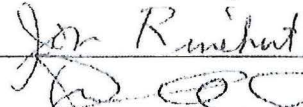
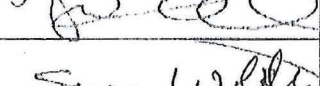
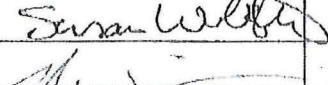

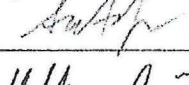
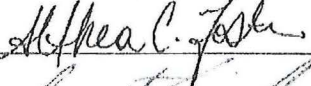
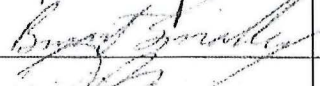
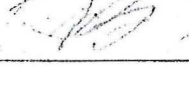
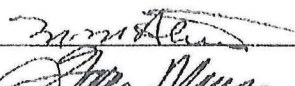
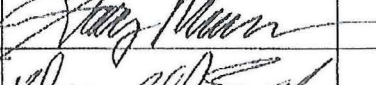

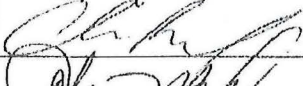
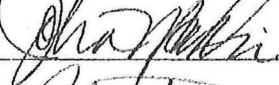
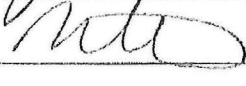
Required Personal Protective Equipment			
Where engineering and administrative controls are not feasible or sufficient for controlling hazards, PPE must be used to protect workers. The following PPE is required for the noted tasks above:			
Eye and Face Protection			
X	Safety glasses with side shields		Reflective goggles/face shield
	Chemical splash goggles		Cutting/brazing/welding eye protection
	Face shield		Other:
Head Protection			
X	Hard hat		Helmet, cowl, hood
	Welding helmet/mask		Other:
Foot Protection			
X	Steel-toed safety shoes/boots		Other:
X	Chemical-resistant booties		
Body Protection			
	Apron (splash, work)		Head-reflective garments
	Lab coat		Sleeves (cut-resistant)
X	Coveralls (work, chemical-resistant) Type chemical: Varies Type coverall: Totally encapsulating chemical-protective (TCEP) suit; tyvek; saranex	X	Other: Appropriate field gear for the weather (thermal/cold stress); Reflective safety vest; USCG Personal Flotation Device (Type I, II, or III);
Respiratory Protection			
X	Respirator	X	Type of respirator: Full Face Air Purifying Respirator with appropriate cartridges for the contaminant of concern; Self-contained breathing apparatus (SCBA); Powered Air Purifying Respirators (PAPRs)
Hand Protection			
	Rubber insulating gloves		Rubber insulating sleeves
	Rubber insulating hoods	X	Other: **Chemical Resistant Gloves (type dependent upon chemical of concern)
Other: Ear plugs and/or muffs Sunscreen Insect repellent **Chemical resistant gloves must be selected based upon adequate breakthrough times for specific chemicals of concern. Please contact the R6 Health & Safety Office for assistance in glove selection.			

HEALTH & SAFETY TRAINING REQUIREMENTS

EPA employees must maintain HAZWOPER certification and are required to have the following:

Course Name	Training Location	Training Frequency
40 hr HAZWOPER Training	In-Class	Initial – One time
8hr HAZWOPER Refresher	In-Class	Annual
24hr EPA H&S Training for Field Activities (OTH 952) modules: <ul style="list-style-type: none"> • Watercraft Safety Training • Confined Space Entry 	Skillport Website (EPA E-Learning)	Initial
Radiation Safety Training	Skillport Website (EPA E-Learning) or H&S Office	Annual
Defensive Driving	GSA Website	Every 3yrs
First Aid/CPR	In-Class	Every 2yrs
Respirator Fit Test & Training	H&S Office	Annual
Bloodborne Pathogen Awareness	OSC Meeting	Annual

I HAVE READ OR BEEN BRIEFED ON THE HAZARDS AND PROTECTIVE MEASURES IDENTIFIED FOR THE ABOVE-LISTED TASKS AND FULLY UNDERSTAND THE JOB-SPECIFIC REQUIREMENTS THAT HAVE BEEN ESTABLISHED.

DATE	EMPLOYEE NAME	EMPLOYEE SIGNATURE	EMPLOYER NAME
4/2/12	Stephen Mason		
4/2/12	Jim Staver		
4/2/12	Nikolas BREXIA		
4/2/12	Bill Rhotenberry		
4/2/12	Thomas Cook		
4-2-12	Jon Rinehart		
4/2/12	Branchi Toal		
4/2/12	Susan Webster		
4/2/12	Rita S.		
4/2/12	Adams Adams		
4/2/12	Althea Foster		
4/2/12	Bryant Smalley		
4/2/12	Robert Berner		
4-2-12	Mike McAteer		
4/2/12	GARY MOORE		
4/2/12	Douald A. Smith		
4/2/12	Charles Charskul		
4/2/12	John Martin		
4/2/12	Paige Delgado		

KCS 8/22/13
RETIRED

KCS 8/22/13
FO 8/22/13
TO 8/22/13
6 PD

KCS 8/22/13
RETIRED

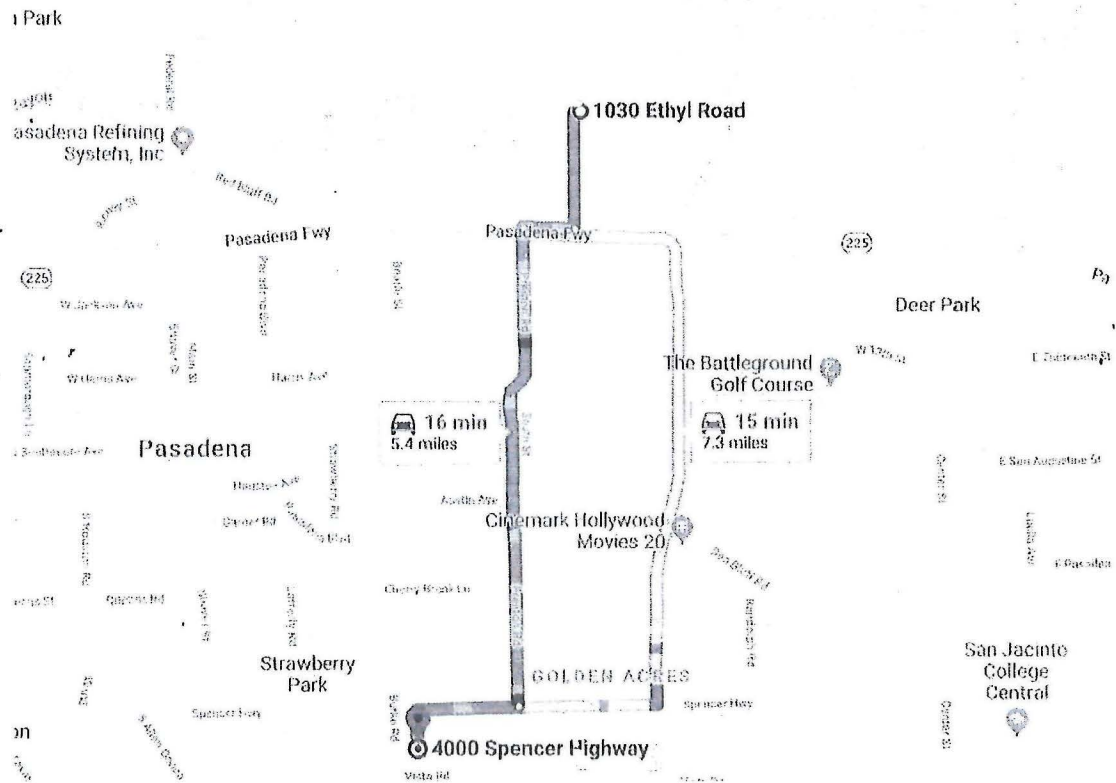
Total VOCs and Benzene:

Action level for benzene under all circumstances is 1/2 of the current OSHA PEL or 0.5 ppm.
A full-facepiece APR with Organic Vapor or Combination cartridges (Scott SC1 or SD1) provides an Assigned Protection Factor of 50. The Maximum Use Concentration for benzene is (50)*(0.5) = 25 ppm.
Any benzene concentrations >25 ppm: Leave area and plan for Level B respiratory protection.

When other BTEX or fuel components are present, follow guidance in Weston FLD-61. PID measurements of total VOC, in the absence of benzene >0.5 ppm are:

0-10 ppm by PID: Level D;
10-150 ppm by PID: monitor for benzene. Follow guidance above if any benzene concentrations >0.5 ppm are encountered
>150 ppm with benzene <0.5 ppm, Level C with FFAPR + OV or combination cartridges (Scott SC1 or SD1)

Local Medical Emergency Facility(s) – LMF		
Name of Hospital: HCA Houston Southeast		
Address: 4000 Spencer Hwy, Pasadena, TX		Phone No.: 713-359-2000
Name of Contact: EMERGENCY ROOM		Phone No.:
Type of Service: <input type="checkbox"/> Physical trauma only <input type="checkbox"/> Chemical exposure only <input type="checkbox"/> Physical trauma and chemical exposure <input checked="" type="checkbox"/> Available 24 hours	Route to Hospital: Google Maps: https://www.google.com/maps	Travel time from site: _21_ minutes Distance to hospital: _12.2_ miles Name/no. of 24-hr ambulance service: 911



- Starting from command center (1030 Ethyl Rd. Pasadena, TX)
- Head south on Ethyl Rd. toward Pasadena Freeway Frontage Rd. for 0.8 mi.
- Turn right onto Pasadena Freeway Frontage Rd. for 0.4 mi.
- Use the left 2 lanes to turn left onto N. Preston Rd for 3.3 mi.
- Turn right onto Spencer Hwy for 0.7 mi.
- Turn left onto Bayshore Ave for 0.2 mi.
- Turn right onto medical Cir for 3 ft.

CHEMICAL CONTAMINANTS DATA SHEETS

Partial Library of NIOSH Pocket Guide Sheets:

\\fsden03\data\Project Files\20408 EPA Region 8 START IV\Laptop Resources\Resources -
Templates\NIOSH-Pocket Guide Sheets

The entire NIOSH Pocket Guide list of chemicals is available online at:

<http://www.cdc.gov/niosh/npg/npgsyn-a.html#a>

NIOSH Pocket Guide to Chemical Hazards

Benzene		CAS 71-43-2
C ₆ H ₆		RTECS CY1400000
Synonyms & Trade Names Benzol, Phenyl hydride		DOT ID & Guide 1114 130
Exposure Limits	NIOSH REL: Ca TWA 0.1 ppm ST 1 ppm See Appendix A	
	OSHA PEL: [1910.1028] TWA 1 ppm ST 5 ppm See Appendix F	
IDLH Ca [500 ppm] See: 71432		Conversion 1 ppm = 3.19 mg/m ³
Physical Description Colorless to light-yellow liquid with an aromatic odor. [Note: A solid below 42°F.]		
MW: 78.1	BP: 176°F	FRZ: 42°F
VP: 75 mmHg	IP: 9.24 eV	Sol: 0.07%
FLP: 12°F	UEL: 7.8%	LEL: 1.2%
Class IB Flammable Liquid: FLP below 73°F and BP at or above 100°F.		
Incompatibilities & Reactivities Strong oxidizers, many fluorides & perchlorates, nitric acid		
Measurement Methods NIOSH 1500, 1501, 3700, 3800; OSHA 12, 1005 See: NMAM or OSHA Methods		
Personal Protection & Sanitation (See protection)		First Aid (See procedures)
Skin: Prevent skin contact		Eye: Irrigate immediately
Eyes: Prevent eye contact		Skin: Soap wash immediately
Wash skin: When contaminated		Breathing: Respiratory support
Remove: When wet (flammable)		Swallow: Medical attention immediately
Change: No recommendation		
Provide: Eyewash, Quick drench		
Important additional information about respirator selection		
Respirator Recommendations (See Appendix E) NIOSH		
At concentrations above the NIOSH REL, or where there is no REL, at any detectable concentration:		
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode		
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus		
Escape:		
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister/Any appropriate escape-type, self-contained breathing apparatus		
Exposure Routes inhalation, skin absorption, ingestion, skin and/or eye contact		
Symptoms Irritation eyes, skin, nose, respiratory system; dizziness; headache, nausea, staggered gait; anorexia, lassitude (weakness, exhaustion); dermatitis; bone marrow depression; [potential occupational carcinogen]		

Target Organs Eyes, skin, respiratory system, blood, central nervous system, bone marrow

Cancer Site [leukemia]

NIOSH Pocket Guide to Chemical Hazards

Ethyl benzene			CAS 100-41-4
CH₃CH₂C₆H₅			RTECS DA0700000
Synonyms & Trade Names Ethylbenzol, Phenylethane			DOT ID & Guide 1175 130
Exposure Limits	NIOSH REL: TWA 100 ppm (435 mg/m ³) ST 125 ppm (545 mg/m ³) OSHA PEL†: TWA 100 ppm (435 mg/m ³)		
IDLH 800 ppm [10%LEL] See: 100414		Conversion 1 ppm = 4.34 mg/m ³	
Physical Description Colorless liquid with an aromatic odor.			
MW: 106.2	BP: 277°F	FRZ: -139°F	Sol: 0.01%
VP: 7 mmHg	IP: 8.76 eV		Sp.Gr: 0.87
F.L.P: 55°F	UEL: 6.7%	LEL: 0.8%	
Class IB Flammable Liquid: F.L.P. below 73°F and BP at or above 100°F.			
Incompatibilities & Reactivities Strong oxidizers			
Measurement Methods NIOSH 1501; OSHA 7, 1002 See: NMAM or OSHA Methods			
Personal Protection & Sanitation (See protection) Skin: Prevent skin contact Eyes: Prevent eye contact Wash skin: When contaminated Remove: When wet (flammable) Change: No recommendation		First Aid (See procedures) Eye: Irrigate immediately Skin: Water flush promptly Breathing: Respiratory support Swallow: Medical attention immediately	
<u>Important additional information about respirator selection</u> Respirator Recommendations NIOSH/OSHA Up to 800 ppm: (APF = 10) Any chemical cartridge respirator with organic vapor cartridge(s)* (APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister (APF = 25) Any powered, air-purifying respirator with organic vapor cartridge(s)* (APF = 10) Any supplied-air respirator* (APF = 50) Any self-contained breathing apparatus with a full facepiece Emergency or planned entry into unknown concentrations or IDLH conditions: (APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode (APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus Escape: (APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister/Any appropriate escape-type, self-contained breathing apparatus			
Exposure Routes inhalation, ingestion, skin and/or eye contact			
Symptoms Irritation eyes, skin, mucous membrane; headache; dermatitis; narcosis, coma			
Target Organs Eyes, skin, respiratory system, central nervous system			

NIOSH Pocket Guide to Chemical Hazards

Toluene		CAS 108-88-3
Chemical Formula C ₆ H ₅ CH ₃		RTECS XS5250000
Synonyms & Trade Names Methyl benzene, Methyl benzol, Phenyl methane, Toluol		DOT ID & Guide 1294 130
Exposure Limits	NIOSH REL: TWA 100 ppm (375 mg/m ³) ST 150 ppm (560 mg/m ³)	
	OSHA PEL†: TWA 200 ppm C 300 ppm 500 ppm (10-minute maximum peak)	
IDLH 500 ppm See: 108883		Conversion 1 ppm = 3.77 mg/m ³
Physical Description Colorless liquid with a sweet, pungent, benzene-like odor.		
MW: 92.1	BP: 232°F	Freezing: -139°F
VP: 21 mmHg	IP: 8.82 eV	Sol(74°F): 0.07%
FLP: 40°F	UEL: 7.1%	LEL: 1.1%
Class IB Flammable Liquid: FLP below 73°F and BP at or above 100°F.		
Incompatibilities & Reactivities Strong oxidizers		
Measurement Methods NIOSH 1500, 1501, 3800, 4000; OSHA 111 See: NMAM or OSHA Methods		
Personal Protection & Sanitation (See protection)		First Aid (See procedures)
Skin: Prevent skin contact		Eye: Irrigate immediately
Eyes: Prevent eye contact		Skin: Soap wash promptly
Wash skin: When contaminated		Breathing: Respiratory support
Remove: When wet (flammable)		Swallow: Medical attention immediately
Change: No recommendation		
Important additional information about respirator selection		
Respirator Recommendations NIOSH		
Up to 500 ppm:		
(APF = 10) Any chemical cartridge respirator with organic vapor cartridge(s)*		
(APF = 25) Any powered, air-purifying respirator with organic vapor cartridge(s)*		
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister		
(APF = 10) Any supplied-air respirator*		
(APF = 50) Any self-contained breathing apparatus with a full facepiece		
Emergency or planned entry into unknown concentrations or IDLH conditions:		
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode		
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus		
Escape:		
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister/Any appropriate escape-type, self-contained breathing apparatus		
Exposure Routes inhalation, skin absorption, ingestion, skin and/or eye contact		
Symptoms Irritation eyes, nose; lassitude (weakness, exhaustion), confusion, euphoria, dizziness, headache; dilated pupils, lacrimation (discharge of tears); anxiety, muscle fatigue, insomnia; paresthesia; dermatitis; liver, kidney damage		
Target Organs Eyes, skin, respiratory system, central nervous system, liver, kidneys		

NIOSH Pocket Guide to Chemical Hazards

o-Xylene		CAS 95-47-6
Chemical Formula <chem>C6H4(CH3)2</chem>		RTECS <u>ZE2450000</u>
Synonyms & Trade Names 1,2-Dimethylbenzene; ortho-Xylene; o-Xylol		DOT ID & Guide 1307 <u>130</u>
Exposure Limits	NIOSH REL: TWA 100 ppm (435 mg/m³) ST 150 ppm (655 mg/m³) OSHA PEL†: TWA 100 ppm (435 mg/m³)	
IDLH 900 ppm See: <u>95476</u>	Conversion 1 ppm = 4.34 mg/m³	
Physical Description Colorless liquid with an aromatic odor.		
MW: 106.2	BP: 292°F	FRZ: -13°F
VP: 7 mmHg	IP: 8.56 eV	Sp.Gr: 0.88
FLP: 90°F	UEL: 6.7%	LEL: 0.9%
Class IC Flammable Liquid: FLP at or above 73°F and below 100°F.		
Incompatibilities & Reactivities Strong oxidizers, strong acids		
Measurement Methods NIOSH <u>1501</u> , <u>3800</u> ; OSHA <u>1002</u> See: <u>NMAM</u> or <u>OSHA Methods</u>		
Personal Protection & Sanitation (<u>See protection</u>) Skin: Prevent skin contact Eyes: Prevent eye contact Wash skin: When contaminated Remove: When wet (flammable) Change: No recommendation		First Aid (<u>See procedures</u>) Eye: Irrigate immediately Skin: Soap wash promptly Breathing: Respiratory support Swallow: Medical attention immediately
<u>Important additional information about respirator selection</u> Respirator Recommendations NIOSH/OSHA Up to 900 ppm: (APF = 10) Any chemical cartridge respirator with organic vapor cartridge(s)* (APF = 25) Any powered, air-purifying respirator with organic vapor cartridge(s)* (APF = 10) Any supplied-air respirator* (APF = 50) Any self-contained breathing apparatus with a full facepiece Emergency or planned entry into unknown concentrations or IDLH conditions: (APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode (APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus Escape: (APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister/Any appropriate escape-type, self-contained breathing apparatus		
Exposure Routes inhalation, skin absorption, ingestion, skin and/or eye contact		
Symptoms Irritation eyes, skin, nose, throat; dizziness, excitement, drowsiness, incoordination, staggering gait; corneal vacuolization; anorexia, nausea, vomiting, abdominal pain; dermatitis		
Target Organs Eyes, skin, respiratory system, central nervous system, gastrointestinal tract, blood, liver, kidneys		